

REMARKS

Applicant has now very carefully considered all aspects of the above-identified Office Action and in consideration thereof has amended the claims of this application to take cognizance of Examiner's indication of allowable subject matter and to otherwise amend the originally filed claims to fully and patentably distinguish all art of record, including the reference relied upon by the Examiner in rejection of certain of the as-filed claims.

Applicant acknowledges with appreciation the Examiner's indication that claims 7 through 12 are deemed to define allowable subject matter subject to rewriting to include the limitations from which such claims depend. In order to simplify the prosecution, applicant has added new claims 16 through 21 which correspond (with some minor changes which will be commented upon) to the said claims 7 through 12 indicated as allowable. Claims 2 and 9 have been canceled. Claim 9 has been replaced by new claim 22 and claims 10 to 12 made dependant on claim 22. In addition applicant has otherwise amended original claims 1, 3, 6, 7 and 12 as to better and patentably distinguish the art relied upon by the Examiner, and respectfully requests reconsideration of these claims as amended along with previously presented claims 13, 14 and 15.

Returning to the "new" claims 16 through 21 it will be found as follows:

Claim 16 corresponds to original claim 7 but now includes the features of original claims 1, 2 and 3 in addition to the limitation of prior claim 7.

Claim 17 similarly corresponds to claim 8 while including the limitations of the claims from which it depends, including in this instance the limitation of claim 4.

Claim 18 corresponds to original claim 9 with the addition of the limitations of claims 1 and 2 from which 9 depended.

Claim 19 corresponds to original claim 10 and includes the limitations of the claims from which 10 depends.

Claim 20 corresponds to original claim 11 and includes the limitations from which claim

11 depends.

Claim 21 corresponds to claim 12 and includes the limitations of claims 1 and 2 from which original claim 12 depends.

Turning now to the original claims which have been rejected by the Examiner, *i.e.*, claims 1 through 11 and 13 through 15. First it is pointed out that in addition to the cancellation of claims 2 and 9, claim 6 has been slightly amended in view of an inadvertence therein. The claim as now shown is dependent on claim 4, not claim 3 and additional insertions have been made to clarify this.

Substantively the Examiner has rejected claims 1 through 6 and 13 to 15 solely under 35 U.S.C. § 103(a) over Agatsuma et al., U.S. Patent No. 4,161,062. The Examiner's analysis of Agatsuma is set forth at length at page two of the Office Action. This rejection is respectfully traversed, especially in view of the careful amendments that have been introduced into claim 1 in order to better distinguish Agatsuma -- which it is believed represents a fundamentally different type of structure. Thus with respect to the currently amended claim 1 it will be noted that applicant has emphasized by the amending language that the present invention resides in a method in which a copper based strip is longitudinally deformed into a U-shape so that the strip can nest about a core superconductor wire. Furthermore, in step (b) of claim 1 it is emphasized that the resulting assembly of U-shaped strip and nesting core wire are soldered together to provide a strong mechanical electrical and thermal bond therebetween by passing the assembly through a molten solder bath. Only by what applicant believes is a fundamentally unjustified interpretation of Agatsuma could a method such as now recited in amended claim 1 be deemed derivable, much less actually present in the Agatsuma et al. teaching.

Agatsuma et al. does not teach forming a strip around a superconductor core wire. They only teach making a hollow nonsuperconductor having grooves to accept a superconductor cable which is subsequently soldered to this hollow core. Specifically Agatsuma et al. are concerned with fabricating a hollow superconductor for the purpose of providing cooling. Applicant is in

no way concerned with improving cooling, but rather in economically increasing the copper to superconducting ratio in order to provide greater stability. A specific method and structural sequence is recited in Applicant's invention and claims and that method and specific structure cannot in any reasonable way be deemed discernable in Agatsuma. Note that the use in the present method of the copper based strip and its deformation longitudinally about the wire are now specifically recited in claim 1, as is the use in the sequence of steps of passing the resulting assembly through a molten solder bath.

Agatsuma et al. does not teach the use of a solder bath or wave solder device for the soldering and forming in a single operation. In Agatsuma et al. the hollow core is made in a separate operation and this core is then soldered to a deformed cable or other superconducting structure. These fundamental differences are indeed of the essence of the present invention. It is emphasized in the instant specification that a major point of the present invention is to yield flexibility regarding the varying amounts of copper that can be added. The specific process called for in the present invention allows wide variation for copper content than does the known processes and certainly there is no purpose or structural adaptation in anything in Agatsuma et al. that could yield such result. Indeed the entire subject of copper to superconductor ratio appears to not even be of interest or presented in Agatsuma et al. and this is understandable in that Agatsuma et al. is not interested in such result and does not include the structural limitations called for in applicant's claims which enable that result.

In view of the foregoing and in consideration of the extensive amendments which specifically implement the points raised it is respectfully requested that the Examiner provide reconsideration of the amended claims and find same to be fully allowable.

Applicant has also requested favorable reconsideration of previously presented claims 13 through 16. These claims do not specifically recite a soldering operation but instead focus on the concept of increasing the copper to superconductor ratio of a superconductor core while the mechanical concept which has been discussed, *i.e.*, of at least partially enclosing the core wire

in contact with the copper based strip. Note that of these claims, claim 14 is yet more specific in reciting the longitudinal deformation into the encasing enclosure, and claim 15 is yet more specific in reciting the range of circumferential closure as being 180 to 360 ° of the core wire. It is deemed that these claims as well fully distinguish the Agatsuma et al. reference for the reasons which have been discussed above.

In consideration of the extensive amendments, and of the foregoing analysis, it is believed that all objections to patentability have been properly overcome. It is therefore respectfully requested that the Examiner now provide favorable consideration and find all remaining claims to be allowable.

Respectfully submitted,



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